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Variation of maximum summer soil moisture deficit with height and summer rainfall

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The agroclimatic areal values of max SMD have been analysed regionally w.r.t. height. The results are, (in millimetres SMD and metres height) :-

			Correl
NE England	MSMD =	98 - 0.19h	(0.94)
NW England		87 - 0.20h	(0.91)
Midlands		122 - 0.24h	(0.85)
E and SE England		116 - 0.09h	(0.45)
SW England		124 - 0.34h	(0.86)
Wales		91 - 0.21h	(0.79)

The value for E & SE England is probably spurious as there is too little variation in the average areal height and there are significent differences in PT & R throughout the region.

The following regional figures are suggested.

	Decrease with height
Northern England	20mm per 100m
Wales, Midland & Eastern England	20 - 25 per 100m
Southern England	25 - 30 per 100m
SW England	30 - 35 per 100m

The formulae with average summer rainfall (R_S) were

NE England	$173 - 0.26R_S$	(-0.94)
NW England	$170 - 0.22R_S$	(-0.98)
N Midlands	$208 - 0.32R_S$	(-0.99)
S Midlands	$194 - 0.28R_S$	(-0.97)
E England	$189 - 0.25R_S$	(-0.87)
SE England	$174 - 0.2\ R_S$	(-0.99)
SW England	$214 - 0.3\ R_S$	(-0.97)
Wales	$180 - 0.23R_S$	(-0.99)

Any comments or suggestions on this paper should be referred to the author.

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